

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

SOLID & HAZARDOUS WASTE DIVISION

Mercury-Containing Lamp & Ballast Disposal And Recycling Guide

Revised 3/20/2013

I. Health Concerns & Threats To The Environment

Mercury-containing lamps are any electric lamp in which mercury is introduced by the manufacturer for the operation of the lamp. Mercury-containing lamps include the following types: fluorescent lamps, high-intensity discharge lamps (HID), neon, mercury vapor, high pressure sodium, compact fluorescent, and metal halide. There are no lamps that are completely free of mercury but some of them have reduced concentrations of mercury or they may contain a chemical that can bind the mercury to help reduce it's mobility.

The National Electrical Manufacturers Association (NEMA) set a standard for manufacturers that "green markings, including green lamp etches or green component materials used in lamps, indicate that the marked lamps consistently pass the Toxicity Characteristic Leaching Procedure (TCLP) test for all substances that were regulated at the time of lamp manufacture".¹

The TCLP is a laboratory test method used to determine whether a bulb can leach enough mercury or other toxic metals, in a landfill to be regulated as hazardous waste. [Wyoming Hazardous Waste Rules and Regulations (HWRR), Chapter 2, Section 3(e)] Mercury-containing lamps that are not marked as described above (i.e., those that have an unfinished aluminum end cap and no green marking) are generally considered to be regulated as hazardous waste after their useful life. While it is possible to test individual spent lamps to determine if each is hazardous, it is typically more cost effective to treat all non-low-mercury or non-green-marked lamps as hazardous waste.¹

Mercury is a toxic metal that in very low concentrations, is toxic to humans and animals and can cause cancer. Mercury is toxic to people and animals by adsorption of the chemical through the skin and by inhalation in addition to being toxic through ingestion. Mercury does not break down in the environment but can be transported via the food chain and can remain toxic for long periods of time. Accidental breaking of mercury-containing lamps can release mercury and metals into the environment where they may contaminate the air, surface or groundwater.²

The disposal and storage requirements discussed below do not apply to households, which are exempt from the Wyoming HWRR. However, homeowners, tenant and landlords are encouraged to recycle spent mercury-containing lamps, including fluorescent tubes and

compact fluorescent lamps, possibly through local household hazardous waste collection facilities and collection day events. Unregulated mercury-containing lamps can also cause the same impacts to human health and the environment as described above.

II. Disposal Requirements

A. Households

Households may be able to take lamps to a locally operated household hazardous waste collection facility in their community for recycling. Otherwise, unless prohibited by the local landfill, households may dispose lamps in municipal landfills. Check with your local waste collection facility in advance to find out if there are any local management requirements. The Wyoming Department of Environmental Quality (Department) recommends that if the lamps have to be disposed along with municipal trash, they be placed in a sealed plastic bag before being placed into the trash. More information on household management of lamps can be found at the EPA's website:

<http://www.epa.gov/osw/hazard/wastetypes/universal/lamps/manage.htm>.

B. Conditionally Exempt Small Quantity Hazardous Waste Generator (CESQG)

If the total amount of hazardous waste lamps and other hazardous waste generated by the waste generator in a calendar month is less than 100 kg (220 lb), the generator is classified as a CESQG. The Wyoming HWRR, Chapter 2, Section 1(e), require CESQGs to properly identify their hazardous waste, determine the quantity of hazardous waste generated per month, and ensure delivery of the hazardous waste to a proper disposal facility, which can include a recycler, a facility permitted to take hazardous waste, or a permitted industrial or municipal landfill (subject to landfill approval). CESQGs lose their exempt status if they store/accumulate more than 1,000 kg (2,200 lb) of hazardous waste and would then be subject to the small quantity hazardous waste generator (SQG), HWRR. To prevent releases of mercury and other trace metals into the environment when broken, the lamps should be packaged in appropriate storage and shipping containers and self-transported in a vehicle to minimize risk of breakage. **They should never be placed in dumpsters or discarded with ordinary trash, where they are almost certain to be crushed by other waste or broken.** The Department recommends that if the lamps have to be disposed along with municipal trash, they be placed in a sealed plastic bag before being placed into the trash.

C. Small Quantity (SQG) Or Large Quantity (LQG) Hazardous Waste Generator

For waste generators that generate between 100 – 1,000 kg (220 – 2,200 lbs) per month of hazardous waste (SQG) or greater than 1,000 kg (2,200 lbs) per month of hazardous waste (LQG), including mercury-containing lamps, the lamps must be managed as hazardous waste or under the Wyoming HWRR, Chapter 13, simpler universal waste rules, a subset of the HWRR (See Section V.). If the lamps are managed as hazardous

waste, the generator must comply with the SQG/LQG standards. (See Appendix A, HWRR, Chapter 8, Hazardous Waste Generator Checklist)

D. Universal Waste Generator

Small quantity and large quantity universal waste handlers are prohibited from disposing of universal waste including mercury-containing lamps. [HWRR, Chapter 14, Section 2(b)(i) and Section 3(b)(i)]

III. Storage and Treatment Requirements

A. Households and CESQGs

Lamps should be stored in a way that avoids breakage. Containers need to be closed, structurally sound, compatible with the contents of the lamps and must lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents. Fluorescent lamps can be stored in the original boxes or in boxes from replacement bulbs. Specially manufactured containers can be purchased for storing used lamps until they are ready for recycling. Your lamp recycler may also provide you with a container that makes storage, shipping or pick-up easier. Do not tape lamps together or use rubber bands. Close and securely seal boxes/containers with tape. Three-inch PVC (polyvinyl chloride - plastic insulating tape) tape is recommended. Boxes/containers should be stored in a dry place. Generators should work with recyclers to fully understand proper procedures for filling and securing boxes or containers of lamps.

B. Small and Large Quantity Generators

If the lamps are classified as hazardous waste and the generator is classified as SQG or LQG, they must be stored in containers meeting the federal Department of Transportation (DOT) requirements. They must also meet all of the hazardous waste pre-transport requirements. (See Appendix A) CESQG hazardous waste generators may never accumulate more than 2,200 pounds of hazardous waste at any one time. Lamps classified as universal wastes must be: contained in containers such as cardboard boxes or fiber drums, which are adequate to prevent breakage; kept in closed containers; stored to minimize lamp breakage; the universal waste generator must immediately clean up any broken or damaged lamps; and broken lamps must be stored in a closed, structurally sound container. Each container of universal waste must be labeled or marked clearly with one of the following phrases: "Universal Waste-Lamps", "Waste Lamps", or "Used Lamps".

C. Treatment

The WDEQ discourages crushing of mercury lamps/bulbs due to the difficulty in fully controlling mercury emissions but, if high volumes, off-site shipment scheduling or other conditions give a generator incentive for lamp/bulb crushing, the activity must meet the conditions below:

- a) If a lamp/bulb crusher is used, the generator loses the flexibility to manage lamps/bulbs as a “universal waste” since WY and federal HWRR require a hazardous waste determination be conducted. Crushed lamps/tubes require more strict management as a hazardous waste if thresholds are exceeded. (See Section III.B.) Many or most fluorescent lamps/bulbs exceed hazardous waste thresholds since even newer lamps/bulbs only reduced mercury content but did not eliminate it.
- b) Crush lamps in a well-ventilated and monitored area to ensure compliance with applicable OSHA exposure limits for mercury with measures such as use of drum crushers equipped with activated carbon absorbent, replaced as needed, to minimize mercury vapors/emissions.
- c) Ensure that employees crushing lamps are thoroughly familiar with proper waste mercury handling and emergency procedures.
- d) Manage only lamps/bulbs generated by the facility and do not crush lamps/bulbs from outside entities.
- e) Store crushed tubes in closed, non-leaking containers.

Also, it is still more advantageous to use the universal waste rule thereby minimizing the amount of hazardous waste that has to be counted per month in determining the hazardous waste generator status.

D. Transportation Requirements

Households and CESQGs must ensure delivery of their hazardous waste to an approved off-site recycling, treatment, storage or disposal facility. SQG and LQG hazardous waste generators must comply with the Pre-Transport requirements listed under the Attachment A checklist. Universal waste handlers who transport their own universal waste offsite, must comply with the following requirements: must ship waste in accord with all applicable DOT hazardous material requirements; must store the universal waste for 10 days or less; must comply with the applicable universal waste handler requirements (see Appendix B); must contain all universal waste releases and other residues; must determine whether the releases/residues are hazardous waste and if so, must comply with HW generator requirements (see Appendix A); must transport only to another universal waste handler, destination facility or a foreign destination; and if defined as hazardous material, must be properly described on the shipping papers in accord with DOT requirements.

IV. Universal Waste Requirements

Mercury-containing lamps managed as universal waste, including eventual shipment to a treatment, storage or disposal (TSD) facility or, preferably a recycler, do not count

toward the determination of hazardous waste generator category. Therefore, if the other hazardous waste generated is less than the 100 kg (220 lb) per month and the lamps are managed as universal waste, then the other hazardous waste may be managed under the less stringent requirements for CESQG waste. However, if the other hazardous waste generated is greater than 100 kg (220 lb) per month, then the other hazardous waste must still be managed according to the more stringent SQG or LQG requirements, as applicable. (See Appendix A)

Universal waste mercury-containing lamp generators, must comply with the requirements listed under Chapter 13 of the HWRR. (See Appendix B, HWRR, Universal Waste Checklist Abbreviated)

V. Recycling Options

Households and CESQGs may be able to take the lamps to a locally operated household hazardous waste collection facility in their community. Households and CESQGs should check with local waste collection facilities first to see if this option is available. Recycling mercury lamps/bulbs by any entity is dependent on an adequate and organized storage system for spent lamps/bulbs such as striving to keep original lamp tube boxes on hand, purchasing aftermarket lamp tube boxes and/or other methods to minimize broken lamps and subsequent release of mercury.

The following web site contains a partial list of firms that offer mercury-containing lamp services: <http://www.lamprecycle.org>. The Department does not endorse specific recyclers or disposal firms. The Department, by listing this web site, does not imply that the companies are in compliance with applicable laws. The Department cautions generators to personally evaluate the services and compliance status of any company they use to manage their waste.

VI. Lamp Ballast Management

Ballasts are the primary electrical components of mercury-containing fluorescent light fixtures and are generally located within the fixture under a metal cover plate. Before the U.S.E.P.A. banned the manufacture of PCBs in 1978, PCBs were commonly used in ballasts. All mercury containing lamp ballasts manufactured since 1978 that do not contain PCBs should be marked by the manufacturer with the statement “No PCBs.” For ballasts manufactured prior to 1978, or for those that do not contain a statement regarding PCB content, you should assume that they contain PCBs. PCB-containing ballasts contain approximately 1 to 1.5 ounces of PCBs. If the ballast fails, PCBs may drip out of the fixture. If it does, measures should be taken to limit or avoid personal exposures.²

The best option for non-leaking PCB ballasts is to recycle them at a facility with EPA approval for recycling PCB ballasts. For a listing of PCB ballast facilities, see <http://www.epa.gov/epaoswer/hazwaste/pcbs/pubs/stordisp.htm#Ballasts>. Non-leaking PCB ballasts that are not recycled must be managed and disposed at a PCB disposal facility. Leaking PCB ballasts must be managed as PCB waste and disposed in a facility regulated under the Federal Toxic Substances Control Act (TSCA).

For PCB disposal information, refer to the EPA table “TSCA Disposal Requirements for Fluorescent Light Ballasts” (Appendix C) and/or contact EPA Region 8, Denver, CO, at 303-312-6027.

VII. Additional Information

Additional information on mercury-containing lamp management may be found on the USEPA’s web site at <http://www.epa.gov/osw/hazard/wastetypes/universal/lamps> .

VIII. References

¹Fluorescent Lamp Disposal and Recycling in EPA Region 2, A Guide For Businesses in NF, NY, PR and VI. 212-637-4145

²Fact Sheet Waste Lamps & Ballasts. State of Oregon Department Of Environmental Quality. Land Quality Division, Hazardous Waste Program, 811 SW 6th Avenue, Portland, OR Rick Volpel, 503-229-6753²

Appendix A

**WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
SOLID AND HAZARDOUS WASTE DIVISION
Hazardous Waste Generator Checklist (All)**

HW Determination [Section 1(b)]		
Result	Section	Inspection Item
	8 1(b)(i)(B)	Does the facility generate solid waste(s) listed in Chapter 2, Section 4 (any listed hazardous waste)?
	8 1(b)(i)(B)	<u>If yes, list wastes and quantities (include EPA HW #).</u>
	8 1(b)(i)(C)	Does the facility generate solid waste(s) listed in Chapter 2, Section 3 that exhibit hazardous characteristics (corrosivity, ignitability, reactivity, TCLP)?
	8 1(b)(i)(C)	<u>If yes, list wastes and quantities (include EPA HW #).</u>

	8 1(b)(i)(C)(I) and (II)	Does the generator determine characteristics by testing or by applying knowledge of processes?
	8 1(b)(i)(C)(I)	If determined by testing, did generator use test methods in Chapter 2, Appendix A-C or equivalent? (If equivalent test methods were used, attach a copy of the equivalent method.)
	8 1(b)(i)(C)(II)	If determined by process knowledge, did generator apply process knowledge of the hazard characteristic in light of the materials or the processes used?
	8 1(b)	Are there are any other non-hazardous solid wastes generated by the generator? List wastes and types
	8 1(b)	Did the generator test all wastes or apply process knowledge, to determine whether or not they were hazardous?
		Does the facility recycle solvents?
		Does the facility substitute non-hazardous solvents for hazardous solvents?
		Are there additional initiatives beyond solvent substitution taken by the facility that could be considered voluntary pollution prevention?
	Self-Audit	Did the handler perform a self-audit using I&C guideline #1 or the video entitled, "Ready To Do Business" that we provided? (Vehicle service facilities only. This item is not required by the HWRR.)

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HW Generator Status		
Result	Section	Inspection Item
	2 1(e)(i)	If the facility generates hazardous waste, does the facility generate less than 100 kg (220 lbs) per month or less than 1 kg per month of acute hazardous waste? If YES, generator must comply with 1(a)-(e)
	2 1(e)	<u>If so, the CESQG must comply with all of the following Chapter 2, Section 1(e) requirements: 1(b)-(e))(CESQG Only)</u>
	2 1(e)(vii)(A)	Does the CESQG adequately determine whether the waste is hazardous?(CESQG Only)
	2 1(e)(iii)	Does the CESQG determine the amount of HW generated per month?(CESQG Only)
	2 1(e)(vii)(B)	Does the CESQG ever accumulate more than 1000 kg? If more 1000 kg, then generator must comply with all SQG requirements.(CESQG Only)
	2 1(e)(vii)(C)	Are HW managed at a federal or state permitted facility?(CESQG Only)

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EPA Identification Number		
Result	Section	Inspection Item
	8 1(c)(i)	Does the generator have an EPA ID number?
	8 1(c)(i)	<u>What is the EPA ID number?</u>

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Manifest (Required for SQG, LQG only)		
Result	Section	Inspection Item
	8 2	Does the generator ship waste offsite?
	8 2	<u>If NO, do not fill out the rest of this section nor the Pretransport section.</u>
	8 2	<u>If YES, list primary off-site facility(s).</u>
	8 2	Does the generator use a manifest?
	8 2(a)(v)	If no, is the generator a small quantity generator (SQG), generating between 100 and 1000 kg/month?
	8 2(a)(v)	Does the SQG have a contractual agreement for waste reclamation? If YES, must comply with 3(b)-(c). If NO, proceed to Letter #4.(SQG Only)
	8 2(a)(v)(A)(I)	If so, does the agreement contain the waste type and frequency of shipments?(SQG Only)
	8 2(a)(v)(A)(II)	Does the agreement contain information to verify the vehicle used to transport the waste to the recycling facility and to deliver regenerated material is owned and operated by the reclaimer of the waste? NOTE: If the SQG complies with 3(a) and 3(b), the other parts of this section are not required.(SQG Only)
	8 2(a)(v)(B)	Does the SQG keep a copy of the reclamation agreement for at least 3 years after agreement termination?(SQG Only)
	8 2(a)(v)	<u>If the generator is a SQG and complies with 3(b)-(d), the other parts of this section are not required (tolling agreement requirements).(SQG Only)</u>
	8 2(a)(i)	Does the manifest include the generator name?
	8 2(a)(i)	Does the manifest include the manifest document number?
	8 2(a)(i)	Does the manifest include the generator name, mailing address, and telephone number?

	8 2(a)(i)	Does the manifest include the generator EPA ID#?
	8 2(a)(i)	Does the manifest include the transporter's name and EPA ID #?
	8 2(a)(i)	Does the manifest include the facility name, address and EPA ID#?
	8 2(a)(i)	Does the manifest include an alternate facility name, address and/or EPA ID#?
	8 2(a)(i)	Does the manifest include instructions to return to generator if undeliverable?
	8 2(a)(i)	Does the manifest include the following waste information required by DOT: shipping name, quantity (weight or volume), and containers (type and number)?
	8 2(a)(i)	Does the manifest include emergency information (special handling instruction, telephone number)?
	8 2(a)(i)	Are the most current and up-to-date manifest forms being used?
	8 2(d)(i)(C)	Does the generator maintain copies of the manifests? If yes, complete the following questions.
	8 2(d)(i)(B)	Did the generator sign and date all manifests?
	8 2(d)	Did the generator obtain a hand-written signature of acceptance from the initial transporter?
	8 4(a)	Does the generator retain one copy of the manifest signed by the generator and initial transporter?
	8 4(a)	Do returned copies of the manifest include the facility owner/operator signature and date of acceptance?
	8 4(a)	Does the generator retain copies for at least 3 years?
	8 2(c)	Does the generator receive a copy of the manifest from the TSD?

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Pre-Transport Requirements (Required for SQG, LQG only)

Result	Section	Inspection Item
	8 3(a)(i)	Does the generator package waste in accordance with DOT requirements?
	8 3(a)(i)	<u>If YES, complete a thorough evaluation.</u>

	8 3(a)(i)	Are any containers to be shipping leaking or corroding?
	8 3(a)(i)	<u>Describe the containers and their condition.</u>
	8 4(a)	Is there evidence of heat generation from incompatible wastes in the containers?
	8 3(b)(i)	Does the generator follow DOT labeling requirements in accordance with 49 CFR 172?
	8 3(c)	Does the generator mark each package in accordance with 49 CFR 172?
	8 3(c)(ii), 8 3(e)(i)(C)	Is each container of 110 gallons or less marked with the required HW label:
	8 3(c)	<u>HAZARDOUS WASTE-Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the US Environmental Protection Agency Generator name(s) and address(es) Manifest Document Number</u>
	8 3(d)(i)	Does the generator have placards to offer to transporter or has the generator properly placarded each hazardous waste transportation vehicle?
	8 3(e)	Are containers used to temporarily store waste before transport? If YES, must comply with 9(a)-(b)
	8 3(e)(i)(B)	Is each container clearly dated?
	8 3(e)(ii), 8 3(e)(iv) and (v)	SQG's are allowed to accumulate up to 6000 kg (roughly 30 55 gallon drums) of hazardous waste for up to 180 days or 270 days if the transportation distance is greater than 200 miles. LQGs are allowed to accumulate HW for 90 days. Does the generator comply with the accumulation times requirements?
	8 3(e)(iv)(B), 11 10(e)	Does the generator inspect all containers for leakage and corrosion at least weekly?
	8 3(e)(i)(A)(I), 11 10(g)	Does the generator locate any containers holding ignitable or reactive waste at least 50 feet from the facility property line?
	8 3(e)(i)(A)(I), 11 10(g)	<u>If tanks are used, LQGs must comply with all requirements under Chapter 11, Section 11 [except for Sections 11(h)(iii) and 11(k)]. SQGs must comply with Chapter 11, Section 11(i).</u>
	8 3(e)(iii)(A)	Is the maximum amount of hazardous waste being stored in the satellite accumulation area, one 55 gallon drum?
	8 3(e)(iii)(A)	Is the hazardous waste container being stored in the satellite accumulation area, properly labeled with the wording, "Hazardous Waste" or other applicable wording?
	8 3(e)(iii)(A)	Is the drum/container in the hazardous waste satellite accumulation area, located at or near the waste generating process or in control of the waste generating process operator?
	8 3(e)(iii)(A)	Once the 55-gallon limit is met, has the drum/container in the hazardous waste satellite accumulation area been moved to the main storage area within 3 days and dated?

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Preparedness and Prevention (Required for SQG, LQG only)

Result	Section	Inspection Item
	11 5(b), 8 3(e)(i)(D)	Is there evidence of fire, explosion, or contamination of the environment?
	11 5(b), 8 3(e)(i)(D)	<u>If yes, use narrative to describe.</u>
	11 5(c), 8 3(e)(i)(D)	Is the facility equipped with an internal communication or alarm system?
	11 5(c)(i)	Is it easily accessible in the case of an emergency?
	11 5(c)(ii)	Is the facility equipped with a telephone or two-way radio to call emergency response personnel?
	11 5(c)(iii)	Is the facility equipped with portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment?
	11 5(d)	Has this equipment been tested and maintained to assure proper operation?
	11 5(e)	Is there evidence of immediate access to all items under 2-4 above?
	11 5(c)(iv)	Is there an adequate volume of water available for hoses, sprinklers, or water spray system?
	11 5(f), 8 3(e)(i)(D)	Is there sufficient aisle space to allow unobstructed movement of personnel and equipment?
	11 5(h), 8 3(e)(i)(D)	Has the owner/operator made arrangements with local authorities to familiarize them with the characteristics of the facility?
	11 5(h)(i)(B), 8 3(e)(i)(D)	In the case that more than one police or fire department might respond, is there a designated authority? If YES, name the primary authority.
	11 5(h)(i)(C), 8 3(e)(i)(D)	Does the owner/operator have phone numbers of and agreements with State emergency response teams, emergency response contractors, and equipment suppliers?
	11 5(h)(i)(D), 8 3(e)(i)(D)	Has the owner/operator arranged to familiarize local hospitals with the properties of hazardous waste handled and types of injuries that could result from fires, explosions, or releases at the facility?
	11 5(h)(ii), 8 3(e)(i)(D)	If State or local authorities decline to enter into arrangements called for under Chapter 11, Section 5(h)(i)(D), is this entered in the operating record?

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Contingency Plan and Emergency Procedures (Required for SQG, LQG only)

Result	Section	Inspection Item
	11 6(b)(i), 8 3(e)(i)(D)	Is a contingency plan maintained at the facility?(LQG Only)
	11 6(c)(ii)	If yes, is it a revised SPCC Plan?(LQG Only)
	11 6(c)(iii)	Does the Contingency Plan include the following required item: Arrangements with local emergency response organizations?(LQG Only)
	11 6(c)(iv)	Does the Contingency Plan include the following required item: The emergency response coordinator's name(s), phone number(s), and address(es)?(LQG Only)
	11 6(c)(v)	Does the Contingency Plan include the following required item: A list of all emergency equipment at the facility and include descriptions of the equipment?(LQG Only)
	11 6(c)(vi)	Does the Contingency Plan include the following required item: An evacuation plan?(LQG Only)
	8 3(e)(iv)(E)(I)	Is there an emergency coordinator onsite or on call at all times?(SQG Only)
	8 3(e)(iv)(E)(II)(1.)	Is the following information posted next to the telephone: The name and phone number of the emergency coordinator?(SQG Only)
	8 3(e)(iv)(E)(II)(2.)	Is the following information posted next to the telephone: The location of fire extinguishers, spill control equipment, and a fire alarm (if necessary)?(SQG Only)
	8 3(e)(iv)(E)(II)(3.)	Is the following information posted next to the telephone: The phone number of the fire department (not necessary if facility has a fire alarm)?(SQG Only)
	8 3(e)(iv)(E)(III)	Does the generator ensure all employees associated with duties related to hazardous waste management are familiar with proper waste handling and emergency procedures?(SQG Only)
	8 3(e)(iv)(E)(IV)(1.)	In the event of a fire, are there provisions for the emergency coordinator or his or her designee, to call the fire department or attempt to extinguish it using a fire extinguisher?(SQG Only)
	8 3(e)(iv)(E)(IV)(2.)	In the event of a spill, are there provisions for the emergency coordinator or his or her designee, to contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil?(SQG Only)
	8 3(e)(iv)(E)(IV)(3.)(a-e)	In the event of a human health release, are there provisions the emergency coordinator will file a report containing the following information: a) Name, address and EPA/State facility ID#; b) Date, time and type of occurrence; c) Hazardous waste quantities and type; d) Extent of injuries; and e) Quantity and disposition of the recovered materials.(SQG Only)
	11 4(g) and 8 3(e)(i)(D)	Does the generator comply with the following personnel requirement: The owner/operator maintains personnel training records at the facility?(LQG Only)
	11 4(g)(v)	How long are training records kept? Current employees=must be kept until facility closure; Former employees=3 years(LQG Only)

	11 4(g)(vi)(A)-(B)	Are the following training documents/records being kept at the facility: Job title and written job description of each position?(LQG Only)
	11 4(g)(vi)(C)	Are the following training documents/records being kept at the facility: Description of type and amount of training?(LQG Only)
	11 4(g)(vi)(C)	Are the following training documents/records being kept at the facility: Records of training given to facility personnel?(LQG Only)

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Recordkeeping and Records

Result	Section	Inspection Item
	8 4(a)	Does the generator keep the following reports for at least three years: Manifests or signed copies from designated facilities?
	8 4(a)	Does the generator keep the following reports for at least three years: Biennial Reports?(LQG Only)
	8 4(a)	Does the generator keep the following reports for at least three years: Exception Reports?(LQG Only)
	8 4(a)	<u>NOTE: SQG's are required to only submit a legible copy of the manifest with some indication the generator has not received conformation of waste delivery to the State if a copy has not been received from the designated facility within 60 days.</u>
	8 4(a)	Does the generator keep the following reports for at least three years: Test Results? (Not required for process knowledge)
	8 4(a)	<u>Where are the records kept (at the facility or elsewhere)</u>
	8 4(b)(i)	Has the generator submitted the biennial report by March 1 of every even numbered year if HW is shipped offsite to a treatment, storage or disposal facility within the US?

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Special Conditions

Result	Section	Inspection Item
	8 5	Has the primary exporter received from or transported to a foreign source any hazardous waste?
	8 5(d)	If yes, has notice been filed with the Regional Administrator
	8 5(e)	Is this waste manifested and signed by a foreign consignee?
	8 4(e)	If the generator transported wastes out of the country, has confirmation of delivered shipment

		been received?
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<p align="center">Land Disposal Restrictions [Chapter 13, Section 1(g)(I)(D)] (Required for SQG, LQG only)</p>

Result	Section	Inspection Item
	13 1(g)(i)(E)	Has the generator determined the waste is restricted based on testing the waste or extract?
	13 1(g)(i)(E)	If so, is testing data retained in the generator's file?
	13 1(g)(i)(E)	Has the generator determined whether the waste is restricted based solely on the knowledge of the waste?
	13 1(g)(i)(E)	If so, is the supporting data retained in the generator's file?
	13 1(g)(i)(F)	Has the generator determined whether the waste is excluded from the definition of hazardous or solid waste or is exempt from Subtitle C regulations? If YES, must address Letter numbers 3(a)-(c)
	13 1(g)(i)(F)	Does the generator have a one-time notice stating they are managing a restricted waste? If so, does the Notice contain the following: Notice of generation?
	13 1(g)(i)(F)	Does the one-time notice contain the following: Exclusion from hazardous waste or solid waste definition or exemption from Subtitle C?
	13 1(g)(i)(F)	Does the one-time notice contain the following: Disposition of the waste?
	13 1(g)(iv)(A)	Has the generator (or treater) made the claim that the hazardous debris is excluded from the definition of hazardous waste under Chapter 1, Section 1(c)(iv)?
	13 1(g)(iv)(A)	If so, does the generator have a one-time notice and certification containing the following info: Name and address of Subtitle D facility receiving waste?
	13 1(g)(iv)(A)	Does the one-time notice and certification contain the following: Hazardous waste debris description with applicable EPA HW #?
	13 1(g)(iv)(A)	Does the one-time notice and certification contain the following: For debris excluded under Chap 2, Section 1(c)(iv)(A), the technology from Table I, 4(f) used to treat debris.
	13 1(g)(iv)(A)	Has the facility generated hazardous debris that has been treated using one of the extraction or destruction technologies specified in Table I of Chapter 13 and is therefore excluded from the definition of a hazardous waste?
	13 1(g)(iv)(A)	If so, does the generator have the following records: All inspections, evaluations, and analysis of treated debris made to determine compliance with treatment standards?
	13 1(g)(iv)(A)	Does the generator have records of any data or information obtained during treatment of the

		debris identifying key operating parameters of the treatment unit?
	13 1(g)(iv)(A)	For each shipment of treated debris the following certification stating "I certify under penalty of law that the debris has been treated in accordance with the requirements of Section 4(f) of Chapter 13 of the Wyoming Hazardous Waste Management Rules and Regulations [40 CFR 268.45]. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment"?
	13 1(i)(iv)	Does the generator first make claim that characteristic hazardous waste are no longer hazardous?
	13 1(i)(iv)	If so, does the generator have copies of the one-time notice and certification including the following info: Name and address of Subtitle D facility receiving waste?
	13 1(i)(iv)	Does the one-time notice and certification include: EPA Hazardous Waste Number and waste description as originally generated?
	13 1(iv)	Does the one-time notice and certification include: Treatability Group?
	13 1(iv)	Does the one-time notice and certification include: Underlying hazardous constituents?
	13 1(iv)	Has the waste generator provided the following required certification:
	13 1(iv)	<u>"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the performance levels specified in Section 4 of Chapter 13 of the Wyoming Hazardous Waste Management Rules and Regulation and all applicable prohibitions set forth in Section 3(c) of Chapter 13 of the Wyoming Hazardous Waste Management Rules and Regulations and W.S. 35-11-503(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." NOTE: If treatment removes the characteristic but does not treat underlying hazardous constituents, then the certification in Section 1(g)(ii)(E)(IV) applies.</u>
	13 1(g)(i)(D)	Is the generator managing prohibited waste in tanks, containers or containment buildings and treating the waste to meet applicable standards?
	13 1(g)(i)(D)	If so, does the generator have a waste analysis plan?
	13 1(g)(i)(D)(I)	Is the plan based on detailed chemical and physical analysis of the waste and does it contain all information necessary to treat the waste?
	13 1(g)(i)(D)(I)	Does the plan contain the selected testing frequency?
	13 1(g)(i)(D)(II)	Was the plan filed a minimum of 30 days prior to treatment activity and delivery verified?
	13 1(g)(i)(D)(III)	Has the generator kept copies of the required notifications and certifications for wastes shipped off-site which have been managed and treated.

	13 1(g)(i)(A)	Does the facility generate a restricted waste that does not meet the applicable treatment standard specified in Chapter 13, Section 4 or it exceeds the applicable prohibition levels?
	13 1(g)(i)(A)(I)	If so, is there a copy of the notification and does it contain the following required information: EPA HW number?
	13 1(g)(i)(A)(II)	Wastewater vs. non-wastewater and subcategory
	13 1(g)(i)(A)(III)	Manifest number associated with waste shipment?
	13 1(g)(i)(A)(IV)	For hazardous debris, the contaminants subject to treatment?
	13 1(g)(i)(A)(V)	The waste analysis data, where available?
	13 1(g)(i)(B)	Does the facility generate a restricted waste and has determined the waste can be land disposed without further treatment?
	13 1(g)(i)(B)(I)(1.)	If so, is there a copy of the notice and certification containing the following information: EPA HW #?
	13 1(g)(i)(B)(I)(2.)	Wastewater vs. non-wastewater, treatability group and waste constituents the treater will monitor?
	13 1(g)(i)(B)(I)(3.)	Manifest number?
	13 1(g)(i)(B)(I)(4.)	Waste analysis data?
	13 1(g)(i)(B)(II)	Does the certification contain the required wording?
	13 1(g)(i)(B)(II)	<u>I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in Chapter 13, Section 4 of the Wyoming Hazardous Waste Management Rules and Regulations and all applicable prohibitions set forth in Chapter 13, Section 3(c) of the Wyoming Hazardous Waste Management Rules and Regulations and W.S. 35-11-503(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.</u>
	13 1(g)(i)(C)	Does the generator generate a waste that is subject to exemption from a land disposal prohibition (i.e., case-by-case extension, nationwide capacity variance, etc.)?
	13 1 (g)(i)(C)(I)	If so, does the generator have notices for each waste shipment and do they contain the following: EPA HW #?
	13 1(g)(i)(C)	A statement the waste is not prohibited from land disposal?
	13 1(g)(i)(C)(II)	The waste constituents of concern for certain specified wastes, the wastewater/non-wastewater designation and subcategory?

	13 1(g)(i)(C)(III)	The manifest number for each shipment of waste?
	13 1(g)(i)(C)(IV)	Waste analysis data, where available?
	13 1(g)(i)(C)(V)	For hazardous debris, the contaminants subject to treatment and an indication the contaminants are being treated to comply with Chapter 13?
	13 1(g)(i)(C)(VI)	For hazardous debris, when using the treatment standards for the contaminating waste(s) in section 4(a), information verifying the requirements described in sections 1(g)(i)(C)(I), (II), (III), (IV), and (VII) of Chapter 13, have been adequately addressed?
	13 1(g)(i)(C)(VII)	The date the waste is subject to the prohibitions?
	13 1(g)(i)(H)	Does the generator manage lab pack wastes and wishes to use the alternative treatment standard?
	13 1(g)(i)(H)	If so, does the generator submit a notification for each waste shipment containing all information listed under Section 1(g)(i)(4)?
	13 1(g)(i)(H)	Does the generator submit the following certification: "I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack does not contain any wastes identified in Chapter 13, Appendix D of the Wyoming Hazardous Waste Management Rules and Regulations. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment"?
	13 1(g)(i)(J)	Does the SQG have a tolling agreement?
	13 1(g)(i)(J)	If so, does the SQG comply with the notification and certification requirements of Section 1(g)(i) for the initial waste shipment?
	13 1(g)(i)(J)	If so, does the generator retain onsite copies of the initial waste shipment notification/certification and tolling agreement for at least 3 years after termination or expiration of the agreement?
	13 1(g)(G)	Does the generator retain on site copies of all notifications, certifications, and other relevant documents for 5 years?

V = Violation, NA = Not Applicable, IC = In Compliance, A = Applicable, XX = Not Relevant, TBD = To Be Determined, NE = Not Evaluated

Appendix B

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY SOLID AND HAZARDOUS WASTE DIVISION Universal Waste Checklist Abbreviated

Basic Universal Waste Generator Requirements		
Result	Section	Inspection Item
	14 1(a)	<u>Does the waste generator manage any of the following types of universal waste: Waste batteries? Waste pesticides? Waste mercury thermostats or ampules? Mercury containing lamps?</u>
	14 3	Does the universal waste handler manage more than 5,000 kg of universal waste or 35,000 or more waste mercury containing lamps? If so, please use the Universal Waste Checklist.
	14 2(d)	Are the universal wastes being stored in structurally sound containers that minimize releases?
	14 2(e)(i)(ii)(iv)(v)	Does the universal waste handler properly label the universal waste or container with the following wording (as appropriate for the type of universal wastes): Universal Waste-Battery(ies), Waste Battery(ies), Used Battery(ies), Universal Waste Pesticide(s), Waste Pesticide(s), Universal Waste- Mercury Thermostat(s), Used Mercury Thermostat(s), Universal Waste-Mercury Containing Lamps, Waste-Mercury Containing Lamps, or Used Mercury-Containing Lamps.
	14 2(f)(iii)/3(f)(iii)	Does the universal waste handler properly demonstrate the length of time the waste has been accumulated from the date it becomes a waste or is received by one of the following methods: marking/labeling waste container with earliest date, marking/labeling each universal waste item with earliest date, maintaining inventory system onsite with earliest date, placing waste in accumulation area and identifying earliest date became waste, or any other method that clearly demonstrates the length of time?
	14 2(h)/3(h)	Has the universal waste handler immediately contained all releases of wastes and residues? Did the handler determine if the waste was hazardous and if so, was the waste handled in

		accord with the HWRR?
	14 2(d)(iii)(C)/3(d)(iii)(C)	If any of the cleanup residues from managing mercury ampules is classified as solid waste, are the wastes being managed in accord with the SWRR?
	14 2(g)/3(g)	Has the universal waste handler informed all employees managing universal waste concerning the proper handling and emergency procedures?
	14 2(i)(ii)/3(i)(ii)	Does the universal waste handler self-transport universal waste offsite? If so, please verify compliance with the Section 4 Transporter Requirements contained in the Universal Waste Checklist.
	14 2(i)(iii)/3(i)(iii)	If the universal waste meets the definition of hazardous material, does the generator comply with the DOT requirements for packaging, labeling, marking, placarding and shipment papers?
	14 5	Does the facility meet the definition of a Universal Waste Destination Facility? If so, use the Universal Waste Checklist to verify compliance. A universal waste destination facility is a facility that treats, disposes of, or recycles a particular category of universal waste.
	14 2(i)/3(i)	Did the universal waste handler ship the universal wastes to another universal waste handler or destination facility and if so, does the handler comply with the applicable requirements? Use the Universal Waste Checklist to confirm.

V = Violation, NA = Not Applicable, IC = In Compliance, A = Applicable, XX = Not Relevant, TBD = To Be Determined, NE = Not Evaluated

Appendix C

TSCA Disposal Requirements for Fluorescent Light Ballasts

PCB Capacitor	PCB Potting Material	Labeling, Transportation and Manifesting for Disposal	Disposal Reference in §761	Disposal Options
"No PCBs" label		Not regulated under TSCA	NA	Not regulated under TSCA
None	< 50 ppm	Not regulated under TSCA	NA	Not regulated under TSCA
Intact and non-leaking or none	≥ 50 ppm	Is a PCB bulk product waste. No labeling is required. Manifesting is required for disposal in accordance with §761.62(a); is not required under §761.62(b); may be required under §761.62(c).	.50(b)(2)(ii) .62(a)-(c)	TSCA incinerator, TSCA/RCRA Landfill, Alternate Destruction Method, Decontamination (§761.65(d) storage approval may be required), Coordinated approval, State approved landfill (leach test required), Risk-

				based approval
Intact and non-leaking	< 50 ppm	No labeling or manifesting required	.50(b)(2)(i) .60(b)(2)(ii)	As municipal solid waste 40 CFR 761 subpart D options
Leaking	< 50 ppm or ≥ 50 ppm	Disposal as PCB bulk product waste. No labeling is required. Manifesting is required for disposal in accordance with §761.62(a); may be required under §761.62(c).	.62(a) or (c)	TSCA Incinerator TSCA/RCRA landfill Alternate Destruction Method Decontamination (§761.65(d) storage approval may be required) Coordinated approval Risk-based approval